

REMARKS

Claims 1-54 are pending in the instant application. Regarding paragraph 21 on page 7 of the Office Action, the subject matter of claims 1-54 was commonly owned at the time any inventions covered by claims 1-54 were made.

Claims 1, 6, 7, 13, 14, 22, 28, 29, 35 and 36 are amended to more positively recite applicants' patentably novel flexible biasing surface mold (claims 1-21) and sheet shaping apparatus (claims 22-47).

Claims 1-54 are subject to an election and restriction under 35 U.S.C. 121 to one of the following inventions:

Group I. Claims 1-47 drawn to an apparatus for shaping sheets, classified in class 65, subclass 291.

Group II. Claims 48-54 drawn to a method for shaping sheets, classified in class 65, subclass 106.

The Office Action alleges that the inventions are distinct from one another because the process of Group II can be prepared by another and by hand. Applicants request clarification of "prepared by other." It appears that the bases for restriction are not completely given, and applicants do not have an opportunity to fully respond to the restriction requirement. The Office Action alleges that the method can be practiced by hand. Applicants respectfully submit that the Office Action has failed to show how the simultaneous practice of the continuing and deforming steps of claim 48 can be practiced by hand. Applicants acknowledge that equipment to perform these steps simultaneously can be operated by hand, but applicants request clarification of how the steps can be practiced by hand.

The Office Action states that during a telephone conversation with Andrew Siminerio on May 11, 2006, a provisional election was made with traverse to prosecute the invention of Group I, claims 1-47. Claims 48-54 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention. The provisional election to prosecute Group I claims 1-47 with traverse is confirmed

The disclosure is objected to for informalities in the ABSTRACT. The ABSTRACT is amended at lines 2 and 5 to correct the informalities. Applicants respectfully submit that the amendment to the ABSTRACT does

not add new subject matter. Based on the forgoing, applicants respectfully request admission and consideration of the amendments to the ABSTRACT, and withdrawal of the objection to the disclosure.

The Office Action states that the lengthily specification has not been checked to the extent necessary to determine the presence of all possible minor errors and requests applicants' cooperation to correct any errors of which applicants become aware. Applicants will correct any errors which they may become aware in the specification.

Claims 1, 13, 22 and 35 are objected to for informalities and inconsistencies. Applicants have amended claims 1, 13, 22 and 35 to, among other things, correct the informalities and inconsistencies identified by the Office Action. Applicants respectfully submit that the amendments to claims 1, 13, 22 and 35 to correct the informalities and inconsistencies do not add new subject and request admission of the amendments to claims 1, 13, 22 and 35 to correct the informalities and inconsistencies. Based on the forgoing, applicants respectfully request withdrawal of the objections to the claims.

Claims 1-4, 7, 14-19, 22-26, 29 and 36-41 are rejected under 35 U.S.C. 102(b) as being anticipated by May et al, U.S. Patent No. 5,849,056 (hereinafter also referred to as "May"). Claims 2-4, 7, 14-19 are either directly or indirectly dependent on independent claim 1, and claims 23-26, 29 and 36-41 are either directly or indirectly dependent on independent claim 22.

Applicants respectfully traverse the rejection of claims 1-4, 7, 14-19, 22-26, 29 and 36-41 under 35 U.S.C. 102(b) as being anticipated by May, however, to reduce the issues, claims 1, 7, 14, 22, 29, and 36 are amended to more positively recite applicants' patentably novel invention.

Claim 1 is amended to recite a flexible biasing surface mold having, among other things a plurality of flexible strap members between first and second deformable members and having a space between adjacent strap members, each strap member having one end portion connected to the first deformable member, the opposite end portion connected to the second deformable member, and a surface facing and spaced from major surface of a platform wherein the strap members are connected to the platform solely by their connections to the first and second deformable members.

Claim 22 is amended to recite an improved sheet shaping apparatus of the type having a shaping station comprising an upper mold, a lower mold and an elevator arrangement to move the upper mold and the lower mold toward and away from one another, the upper mold includes, among other things, a downwardly facing shaped surface. The improvement includes, among other things, a plurality of flexible strap members between first and second deformable members and having a space between adjacent strap members, each strap member having one end portion connected to the first deformable member, the opposite end portion connected to the second deformable member, and a surface facing and spaced from major surface of a platform wherein the strap members are connected to the platform solely by their connections to the first and second deformable members.

Support for the amendments to claims 1 and 22 is found, among other places, in Figs. 3 and 4, and the discussion on page 15, line 28 to page 17, line 7 of the specification. Claims 7, 14, 29 and 36 are amended to be consistent with their respective one of claims 1 and 22. Based on the forgoing, applicants respectfully request admission of the amendments to claims 1, 7, 14, 22, 29 and 36, and reconsideration of claims 1-4, 7, 14-19, 22-26, 29 and 36-41.

Applicants respectfully submit that May does not anticipate applicants' patentably novel invention recited in claims 1 and 22, and the claims dependent thereon. May discloses a flexible press having a ring 38 having four flexible supports 48 each having a sheet engaging surface 44 (see Figs. 1 and 2 of May). Each side of the ring 38 is directly connected to a drive plate 40 by a plurality of actuators 42. Applicants' claims 1 and 22, on the other hand each recite in one form or another that the strap members 112 are connected to the platform 52 solely by their connections, e.g. springs 116 in Fig. 3, and screw and bolt arrangements 114 in Fig. 4, to the first and second deformable members.

Since May does not implicitly or explicitly disclose the connection arrangement recited in applicants' claims 1 and 22, May can not anticipate applicants' claims 1 and 22, and the claims dependent thereon.

Based on the forgoing, applicants respectfully request withdrawal of the rejection of claims 1-4, 7, 14-19, 22-26, 29 and 36-41 under 35 U.S.C. 102(b) as being anticipated by May.

Claims 5, 6, 13, 27, 28, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over May as applied to claims 2 and 24 above, in view of Goolsbay et al U.S. Patent No. 5,695,538 (hereinafter also referred to as "Goolsbay"). The Office Action states that May does not disclose a support member mounted between the platform and the first and second deformable members, and alleges that Goolsbay teaches a support member (44) mounted between the platform and the first and second deformable members, slidably mounted pull rods having an end portion connected to the deformable members (42) located between pairs of rigid members (84) and the other end defined as the second end portion of the pull rod connected to the support member (Figs. 3 and 4, col. 3, lines 22-23).

Applicants respectfully traverse the rejection of claims 5, 6, 13, 27, 28, and 35 under 35 U.S.C. 103(a) as being unpatentable over May as applied to claims 2 and 24 above, in view of Goolsbay. Claims 5, 6 and 13 are either directly or indirectly dependent on claim 2 which is directly dependent on claim 1. Claims 27, 28 and 35 are directly or indirectly dependent on claim 24 which is dependent on claim 22 through claim 23. Claims 1 and 22, and May were discussed above.

Claims 13 and 35 were amended as discussed above to correct informalities, and claims 6, 13, 28 and 35 were amended to be consistent with the amendments to their respective one of independent claims 1 and 22. Support for the amendments to claims 6, 13, 28, and 35 is found, among other places, in the originally filed claims. Based on the forgoing, applicants respectfully request admission of the amendments to claims 6, 13, 28 and 35, and reconsideration of claims 5, 6, 13, 27, 28 and 35.

The ring 38 of the lower shaping mold 28 of Goolsbay is the same as the ring 38 of the lower shaping mold 29 of May. Applicants have shown above that the ring 38 of May does not disclose the flexible strap members recited in claims 1 and 22. More particularly, each of the sides of the rings of May and Goolsbay are connected to the plate (plate 40 of May and plate 46 of Goolsbay) by actuators whereas claims 1 and 22 each recite in one form or

another that the strap members are solely connected to the platform through their connections to the deformable members.

Based on the forgoing, applicants respectfully request withdrawal of the rejection of claims 5, 6, 13, 27, 28, and 35 under 35 U.S.C. 103(a) as being unpatentable over May as applied to claims 2 and 24 above, in view of Goolsbay.

Claims 8, 9, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over May as applied to claims 7 and 29 above, in view of Kelly U.S. Patent No. 4,830,650 (hereinafter also referred to as "Kelly"). The Office Action states that May does not disclose a wheel on the outer side of the outer strap member and alleges that Kelly teaches using a wheel on the outer side of the ring perimeter (col. 5, lines 18-22).

Applicants respectfully traverse the rejection of claims 8, 9, 30, and 31 under 35 U.S.C. 103(a) as being unpatentable over May as applied to claims 7 and 29 above, in view of Kelly. Claims 8 and 9 are indirectly dependent on claim 1, and claims 30 and 31 are indirectly dependent on claim 22. Claims 1 and 22, and May were discussed above.

The ring 38 of the lower shaping mold 28 of Kelly is the same as the ring 38 of the lower shaping mold 29 of May. Applicants have shown above that the ring 38 of May does not disclose, among other things, the connection of the flexible strap members and deformable members recited in applicants' claims 1 and 22. More particularly, each of the sides of the rings of May and Kelly are connected to the plate 40 by actuators whereas claims 1 and 22 each recite in one form or another that the strap members are solely connected to the platform through their connections to the deformable members.

Based on the forgoing, applicants respectfully request withdrawal of the rejection of claims 8, 9, 30 and 31 under 35 U.S.C. 103(a) as being unpatentable over May as applied to claims 7 and 29 above, in view of Kelly.

Claims 10 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over May in view of Kelly as applied to claim 9 and 31 above, and further in view of Ritter, Jr. U.S. patent No. 3,527,589 (hereinafter also referred to as "Ritter"). The Office Action states that May does not disclose a support structure for the conveying rolls, and alleges that Ritter teaches

mounting conveying rolls for a sheet shaping apparatus on a support structure (35) in Fig. 2 (col. 3, lines 22-25).

Applicants respectfully traverse the rejection of claims 10 and 32 under 35 U.S.C. as being unpatentable over May in view of Kelly as applied to claim 9 and 31 above, and further in view of Ritter. Claim 10 is indirectly dependent on claim 1, and claim 32 is indirectly dependent on claim 22. Claims 1 and 22, May and Kelly were discussed above.

The Office Action states that May does not disclose a support structure of the conveying rolls and alleges that Ritter teaches the mounting of conveying rolls for a sheet shaping apparatus for a support structure. Assume for the sake of discussion only that the combination of May, Kelly and Ritter is made by one skilled in the art as proposed by the Office Action. Applicants respectfully submit that the subject matter of claims 1 and 10, and 22 and 32 would not be disclosed.

Applicants have shown above that May and Kelly each fail to disclose that the feature of claims 1 and 22 that a plurality of flexible strap members between first and second deformable members have one end portion connected to the first deformable member, the opposite end portion connected to the second deformable member, and a surface facing and spaced from major surface of a platform wherein the strap members are connected to the platform solely by their connections to the first and second deformable members. As discussed above all the sides of the rings of May and Kelly are connected directly to the plate by actuators. Ritter who merely discloses support for conveying rolls does not cure the defects of May and Kelly.

Based on the forgoing, applicants respectfully request withdrawal of the rejection of claims 10 and 32 under 35 U.S.C. as being unpatentable over May in view of Kelly as applied to claim 9 and 31 above, and further in view of Ritter.

Claims 11, 12, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over May in view of Kelly as applied to claims 8 and 30 above, and further in view of Goolsbay and Meunier et al. U.S. Patent No. 5,833,729 (hereinafter also referred to as "Meunier"). The Office Action states that May does not disclose a support member mounted between the platform

and the strap members; that Goolsbay does not teach shafts of conveyor rolls, and alleges that Meunier teaches mounting conveyor rolls on a support member (46) and also the movement of the rolls toward and away from a first position to a second position.

Applicants respectfully traverse the rejection of claims 11, 12, 33 and 34 under 35 U.S.C. 103(a) as being unpatentable over May in view of Kelly as applied to claims 8 and 30 above, and further in view of Goolsbay and Meunier. Claims 11 and 12 are indirectly dependent on claim 1, and claims 33 and 34 are indirectly dependent on claim 22. Claims 1 and 22, May, Kelly and Goolsbay were discussed above.

Assume for the sake of discussion only that one skilled in the art would combine May, Kelly, Goolsbay and Meunier as proposed by the Office action. Applicants respectfully submit that the claimed subject matter of claims 1, 11, 12, 22, 30 and 31 would not be disclosed. More particularly, applicants have shown above that May, Kelly and Goolsbay each fail to disclose, among other things, the feature of claims 1 and 22 that a plurality of flexible strap members between first and second deformable members have one end portion connected to the first deformable member, the opposite end portion connected to the second deformable member, and a surface facing and spaced from major surface of a platform wherein the strap members are connected to the platform solely by their connections to the first and second deformable members. As discussed above all the sides of the rings of May, Kelly and Goolsbay are connected to the plate by actuators. Meunier who allegedly teaches mounting conveying rolls on a support member to move the rolls between first and second positions does not cure the defects of May, Kelly and Goolsbay.

Based on the foregoing, applicants respectfully request withdrawal of the rejection of claims 11, 12, 33 and 34 under 35 U.S.C. 103(a) as being unpatentable over May in view of Kelly as applied to claims 8 and 30 above, and further in view of Goolsbay and Meunier.

Claims 20 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over May as applied to claims 19 and 41, in view of Black et al. U.S. Patent No. 2,239,546 (hereinafter also referred to as "Black"). The Office Action alleges that that May does not disclose springs connecting the strap

members to the deformable members and alleges that Black teaches attaching flexible wires to a sheet bending frame via springs (44) in Fig. 6 (page 2, lines 64-67).

Applicants respectfully traverse the rejection of claims 20 and 42 under 35 U.S.C. 103(a) as being unpatentable over May as applied to claims 19 and 41, in view of Black and request reconsideration thereof. Claim 20 is indirectly dependent on claim 1, and claim 42 is indirectly dependent on claim 22. Claims 1 and 22, and May were discussed above.

Assume for the sake of discussion only that one skilled in the art would combine May and Black as proposed by the Office action. Applicants respectfully submit the claimed subject matter of claims 1, 20, 22 and 42 would not be disclosed. More particularly, applicants have shown above that May fails to disclose, among other things, the features of claims 1 and 22 of a plurality of flexible strap members between first and second deformable members have one end portion connected to the first deformable member, the opposite end portion connected to the second deformable member, and a surface facing and spaced from major surface of a platform wherein the strap members are connected to the platform solely by their connections to the first and second deformable members. As discussed above all the sides of the ring of May are connected to the plate by actuators 42. Black who merely teaches attaching flexible wires to a sheet bending frame via springs does not cure the defects of May.

Based on the forgoing, applicants respectfully request withdrawal of the rejection of claims 20 and 42 under 35 U.S.C. 103(a) as being unpatentable over May as applied to claims 19 and 41, in view of Black.

Claims 21 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over May as applied to claims 19 and 41 above, in view of Honjo et al. U.S. Patent No. 4,927,443 (hereinafter also referred to as "Honjo"). The Office Action states that May does not disclose nuts and bolts connecting the strap members to the deformable members and alleges that Honjo teaches attaching straps for bending glass sheets to molding frame via nuts and bolts Fig. 4.

Applicants respectfully traverse the rejection of claims 21 and 43 under 35 U.S.C. 103(a) as being unpatentable over May as applied to claims 19 and

41, in view of Honjo and request reconsideration thereof. Claim 21 is indirectly dependent on claim 1, and claim 43 is indirectly dependent on claim 22.

Claims 1 and 22, and May were discussed above.

Assume for the sake of discussion only that one skilled in the art would combine May and Honjo as proposed by the Office action. Applicants respectfully submit the claimed subject matter of claims 1, 20, 22 and 42 would not be disclosed. More particularly, applicants have shown above that May fails to disclose, among other things, the feature of claims 1 and 22 of a plurality of flexible strap members between first and second deformable members having one end portion connected to the first deformable member, the opposite end portion connected to the second deformable member, and a surface facing and spaced from major surface of a platform wherein the strap members are interconnected to the platform solely by their connections to the first and second deformable members. As discussed above all the sides of the ring of May are connected to the plate by actuators 42. Honjo who merely teaches attaching straps for bending glass sheets to molding frames via nuts and bolts does not cure the defects of May.

Based on the forgoing, applicants respectfully request withdrawal of the rejection of claims 21 and 43 under 35 U.S.C. 103(a) as being unpatentable over May as applied to claims 19 and 41, in view of Honjo.

Claim 44 is rejected under 35U.S.C. 103(a) as being unpatentable over May as applied to claim 23 above, in view of Gulotta U.S. Patent No. 3,409,422 (hereinafter also referred to as "Gulotta"). The Office Action states that May does not disclose conveying wheels mounted on one side of the outer strap members and alleges that Gulotta teaches a gas furnace where the sheet bending section line a plane having a slope toward conveying wheels mounted at one side of the glass sheet and molding section (col. 2, lines 42, 47-52; col. 3, line 75 to col. 4, line 1; col. 4, lines 43-50, Fig. 4).

Applicants respectfully traverse the rejection of claim 44 under 35U.S.C. 103(a) as being unpatentable over May as applied to claim 23 above, in view of Gulotta and request reconsideration thereof. Claim 44 is indirectly dependent on claim 22. Claim 22 and May were discussed above.

Assume for the sake of discussion only that one skilled in the art would combine May and Gulotta as proposed by the Office action. Applicants

respectfully submit the claimed subject matter of claims 22 and 44 would not be disclosed. More particularly, applicants have shown above that May fails to disclose, among other things, the features of claim 22 of a plurality of flexible strap members between first and second deformable members have one end portion connected to the first deformable member, the opposite end portion connected to the second deformable member, and a surface facing and spaced from major surface of a platform wherein the strap members are connected to the platform solely by their connections to the first and second deformable members. As discussed above all the sides of the ring of May are connected to the plate by actuators 42. Gulotta who merely teaches a gas furnace where the sheet bending section line a plane having a slope toward conveying wheels mounted at one side of the glass sheet and molding section does not cure the defects of May.

Based on the forgoing, applicants respectfully request withdrawal of the rejection of claim 44 under 35 U.S.C. 103(a) as being unpatentable over May as applied to claim 23, in view of Gulotta.

Claim 45 is rejected under 35U.S.C. 103(a) as being unpatentable over May as applied to claim 22 above, in view of Schultz U.S. Patent No. 4,773,925 (hereinafter also referred to as "Schultz"). The Office Action states that May does not disclose a platform mounted on wheels to move the lower mold into and out of the shaping station, and alleges that Schultz teaches a lower mold mounted on wheels.

Applicants respectfully traverse the rejection of claim 45 under 35U.S.C. 103(a) as being unpatentable over May as applied to claim 22 above, in view of Schultz and request reconsideration thereof. Claim 45 is indirectly dependent on claim 22. Claim 22 and May were discussed above.

Assume for the sake of discussion only that one skilled in the art would combine May and Schultz as proposed by the Office action. Applicants respectfully submit the claimed subject matter of claims 22 and 45 would not be disclosed. More particularly, applicants have shown above that May fails to disclose, among other things, the feature of claim 22 of a plurality of flexible strap members between first and second deformable members have one end portion connected to the first deformable member, the opposite end portion connected to the second deformable member, and a surface facing and

spaced from major surface of a platform wherein the strap members are connected to the platform solely by their connections to the first and second deformable members. As discussed above, all the sides of the ring of May are connected to the plate by actuators. Schultz who merely teaches a lower mould mounted on wheels does not cure the defects of May.

Based on the forgoing, applicants respectfully request withdrawal of the rejection of claim 45 under 35 U.S.C. 103(a) as being unpatentable over May as applied to claim 23, in view of Schultz.

Claim 46 is rejected under 35U.S.C. 103(a) as being unpatentable over May in view of Kelly and Ritter, as applied to claim 32 above, in further view of Schultz. The Office Action states that May, Kelly and Ritter do not disclose mounting the platform and conveyor rolls on wheels, and alleges that Schultz teaches a lower mold having a platform and conveying rolls that is mounted on wheels.

Applicants respectfully traverse the rejection of claim 46 under 35U.S.C. 103(a) as being unpatentable over May in view of Kelly and Ritter as applied to claim 32 above, in view of Schultz and request reconsideration thereof. Claim 46 is indirectly dependent on claim 22. Claim 22, May, Kelly, Ritter and Schultz were discussed above.

Assume for the sake of discussion only that one skilled in the art would combine May, Kelly and Ritter and Schultz as proposed by the Office action. Applicants respectfully submit the claimed subject matter of claims 22 and 46 would not be disclosed. More particularly, applicants have shown above that May and Kelly fail to disclose, among other things, the feature of claim 22 of a plurality of flexible strap members between first and second deformable members have one end portion connected to the first deformable member, the opposite end portion connected to the second deformable member, and a surface facing and spaced from major surface of a platform wherein the strap members are connected to the platform solely by their connections to the first and second deformable members. As discussed above all the sides of the ring of May and Kelly are connected to the plate by actuators 42. Schultz who merely teaches a lower mold comprising a platform and conveying rolls that is mounted on wheels does not cure the defects of May, Kelly and Ritter.

Based on the forgoing, applicants respectfully request withdrawal of the rejection of claim 46 under 35 U.S.C. 103(a) as being unpatentable over May in view of Kelly and Ritter as applied to claim 32 above, in view of Schultz.

Claim 47 is rejected under 35U.S.C. 103(a) as being unpatentable over May in view of Kelly and Ritter, as applied to claim 32 above, in further view of Schultz. The Office Action states that May, Kelly and Ritter do not disclose mounting the platform and conveying rolls on wheels, and alleges that Schultz teaches a lower mold mounted on wheels.

Applicants respectfully traverse the rejection of claim 47 under 35U.S.C. 103(a) as being unpatentable over May in view of Kelly and Ritter as applied to claim 32 above, in view of Schultz and request reconsideration thereof. Claim 47 is indirectly dependent on claim 22. Claim 22, May, Kelly, Ritter and Schultz were discussed above.

Assume for the sake of discussion only that one skilled in the art would combine May, Kelly and Ritter and Schultz as proposed by the Office action. Applicants respectfully submit the claimed subject matter of claims 22 and 47 would not be disclosed. More particularly, applicants have shown above that May and Kelly fail to disclose, among other things, the feature of claim 22 of a plurality of flexible strap members between first and second deformable members have one end portion connected to the first deformable member, the opposite end portion connected to the second deformable member, and a surface facing and spaced from major surface of a platform wherein the strap members are connected to the platform solely by their connections to the first and second deformable members. As discussed above all the sides of the ring of May and Kelly are connected to the plate by actuators 42. Schultz who merely teaches a lower mold mounted on wheels does not cure the defects of May, Kelly and Ritter.

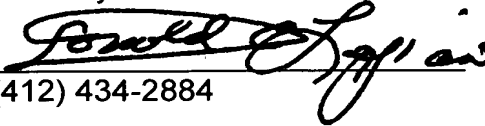
Based on the forgoing, applicants respectfully request withdrawal of the rejection of claim 47 under 35 U.S.C. 103(a) as being unpatentable over May in view of Kelly and Ritter as applied to claim 32 above, in view of Schultz.

Applicants have shown above that claims 1-47 are patentably novel over the applied prior art. Based on the forgoing, applicants respectfully request allowance of claims 1-47.

This amendment is a sincere effort to place this application in condition for allowance. In the event issues remain, the Examiner is invited to call Mr. Andrew Siminerio at 412-653 3632 or the undersigned at 412-653 3632 before further action is taken on the application.

Respectfully submitted,

DONALD C. LEPIANE
Registration No. 25,996
Attorney of Record


(412) 434-2884

Pittsburgh, Pennsylvania
August 17, 2006